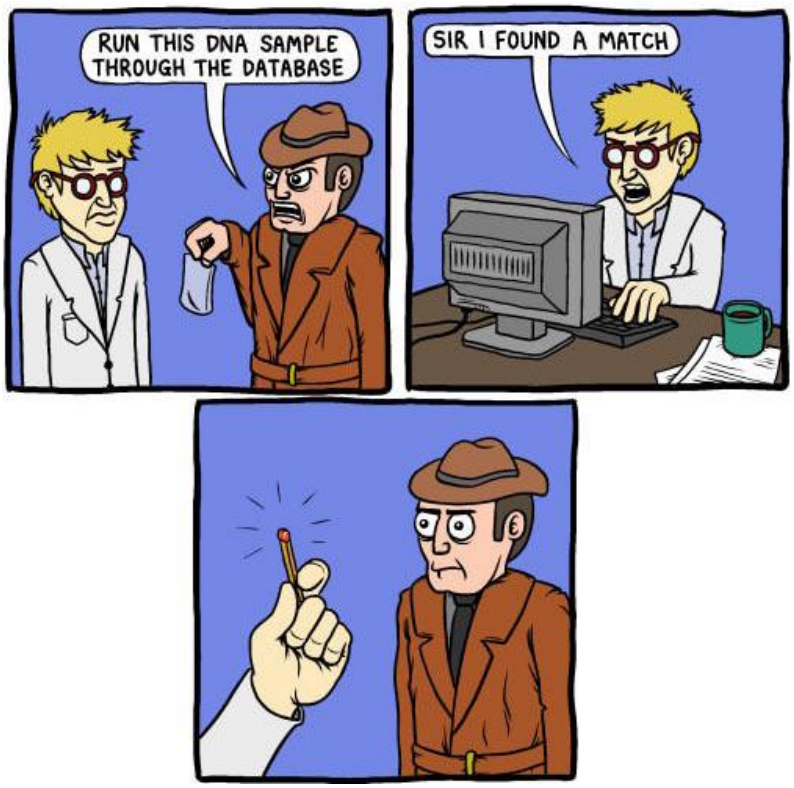

ASSIGNMENT 3

ITRI 613

Enrico Dreyer
31210783

Table of Contents

Part A

Question 1

Relational Algebra | SQL | Group Editor

```
1 σ price > 1000 (Laptop)
```

execute query | download | history

$\sigma_{price > 1000}(Laptop)$

Laptop.model	Laptop.speed	Laptop.ram	Laptop.hd	Laptop.screen	Laptop.price
2001	2	2048	240	20.1	3673
2004	2	512	60	13.3	1150
2005	2.16	1024	120	17	2500
2006	2	2048	80	15.4	1700
2007	1.83	1024	120	13.3	1429
2010	2	2048	160	15.4	2300

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Question 2

Relational Algebra | SQL | Group Editor

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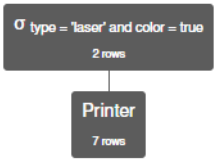
```
1 σ type = 'laser' and color = true (Printer)
```

▶ execute query

download history



σ type = 'laser' and color = true (Printer)

Printer.model	Printer.color	Printer.type	Printer.price
3003	true	'laser'	899
3007	true	'laser'	200

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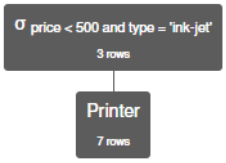
Question 3

Relational Algebra | SQL | Group Editor

```
1 σ price < 500 and type = 'ink-jet' (Printer)
```

execute query | download | history



σ price < 500 and type = 'ink-jet' (Printer)

Printer.model	Printer.color	Printer.type	Printer.price
3001	true	'ink-jet'	99
3004	true	'ink-jet'	120
3006	true	'ink-jet'	100

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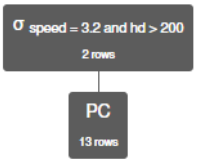
Question 4

Relational Algebra | SQL | Group Editor

```
1 σ speed = 3.2 and hd > 200 (PC)
```

execute query | download | history



$$\sigma_{\text{speed = 3.2 and hd > 200}}(\text{PC})$$

PC.model	PC.speed	PC.ram	PC.hd	PC.price
1005	3.2	512	250	630
1006	3.2	1024	320	1049

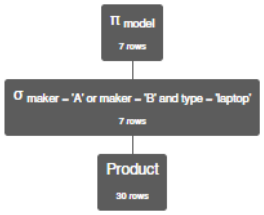
‹ 1 ›

Question 5

Relational Algebra | SQL | Group Editor

```
1 π model (σ maker = 'A' or maker = 'B' and type = 'laptop' (Product))
2
```

execute query | download | history



$$\pi_{\text{model}} (\sigma_{\text{maker = 'A' or maker = 'B' and type = 'laptop'}} (\text{Product}))$$

Product.model
1001
1002
1003
2004
2005
2006
2007

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Part B

Question 1

Relational Algebra | SQL | Group Editor

```
1 σ DeptName = 'Finance' (Employee)
2
3
```

execute query | download | history

σ DeptName = 'Finance' (Employee)

Employee.Name	Employee.EmpId	Employee.DeptName
'Harry'	3415	'Finance'
'George'	3401	'Finance'

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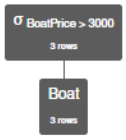
Question 2

Relational Algebra | SQL | Group Editor

```
1 σ BoatPrice > 3000 (Boat)
```

execute query

download history



σ BoatPrice > 3000 (Boat)

Boat.BoatModel	Boat.BoatPrice
'Boat1'	10000
'Boat2'	40000
'Boat3'	60000

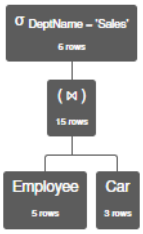
‹ 1 ›

Question 3

Relational Algebra | SQL | Group Editor

```
1 σ DeptName = 'Sales' (Employee ⋈ Car)
```

execute query | download | history



$$\sigma_{\text{DeptName = 'Sales'}} (\text{Employee} \bowtie \text{Car})$$

Employee.Name	Employee.EmpId	Employee.DeptName	Car.CarModel	Car.CarPrice
'Sally'	2241	'Sales'	'CarA'	20000
'Sally'	2241	'Sales'	'CarB'	30000
'Sally'	2241	'Sales'	'CarC'	50000
'Harriet'	2202	'Sales'	'CarA'	20000
'Harriet'	2202	'Sales'	'CarB'	30000
'Harriet'	2202	'Sales'	'CarC'	50000

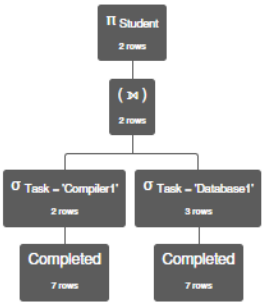
‹ 1 ›

Question 4

Relational Algebra | SQL | Group Editor

```
1 π Student ((σ Task = 'Compiler1' (Completed)) ⋈ (σ Task = 'Database1' (Completed)))
```

execute query | download | history



$$\pi_{\text{Student}}\left(\left(\sigma_{\text{Task = 'Compiler1'}}\left(\text{Completed}\right)\right) \bowtie \left(\sigma_{\text{Task = 'Database1'}}\left(\text{Completed}\right)\right)\right)$$

Completed.Student
'Fred'
'Eugene'

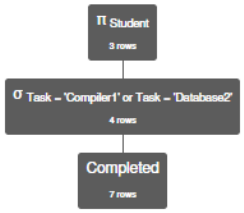
‹ 1 ›

Question 5

Relational Algebra | SQL | Group Editor

```
1 π Student (σ Task = 'Compiler1' or Task = 'Database2' (Completed))
```

execute query | download | history



$$\pi_{\text{Student}} (\sigma_{\text{Task = 'Compiler1' or Task = 'Database2'}} (\text{Completed}))$$

Completed.Student
'Fred'
'Eugene'
'Sarah'

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